

# Description of Analytical Tool

**Name:** IMPLAN (IM pact A nalysis for PLAN ning) Professional

**Author:** Minnesota IMPLAN Group, Inc. (MIG Inc.)  
1725 Tower Drive West  
Suite 140  
Stillwater, MN 55082  
USA

Telephone: 651-439-4421  
Fax: 651-439-4813  
Tax ID: 41-1733883

**Availability of technical support:**

- a) Website: <http://www.implanpro.com>
- b) E-Mail: [info@implan.com](mailto:info@implan.com)
- c) Users' manual: available for reference from the library of the Economic Analysis and Financial Assistance Section, DPLA, DWR.

**Categories:** Economics, Social Accounting & Impact Analysis

**Main Features and Capabilities:**

Geographic scope: California and California counties

Temporal scale: 1997 (using the available data file)

Other features: The IMPLAN Pro software and data files can be purchased from the author. Data files are updated frequently. (The latest data file release contains 2001 data.)

**Applications:**

This tool has most recently been used for impact assessment in the DWR In-Delta Storage Investigations and DWR Water Transfers Office.

Geographic scope: Input-output models for California, any county or group of counties in California, can be generated with the IMPLAN Pro software and the available data files. The analyst then use the models' generated results, e.g. income, employment, output coefficients and multipliers, etc., to estimate the direct, indirect, induced, and overall economic impacts of any event. The necessary condition is that the economic variables concerning the event, e.g. changes in income, changes in production, etc. must be quantified in money terms.

Temporal scale: 1997 (based on the available data files)

### **Calibration / Validation / Sensitivity Analysis:**

The data files can be calibrated using locally available data, if the latter seems to be better. Such attempts were tried satisfactorily in economic analyses at University of California, Berkeley.

### **Peer Review:**

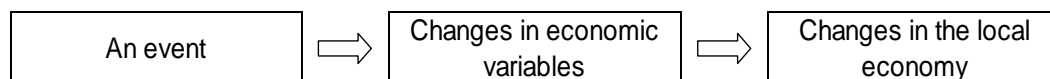
The software has undergone many revisions since first being developed in 1984. It is now used widely in the U.S. by many federal and state agencies, academic institutions, private companies, etc. Approximately 1,500 organizations, including the Army Corps of Engineers, the Environmental Protection Agency, the U.S. Fish and Wildlife Service, UC Berkeley, etc. have utilized IMPLAN Pro software and data files in conducting their economic analyses.

### **Anatomy of IMPLAN Pro:**

#### Conceptual Basis

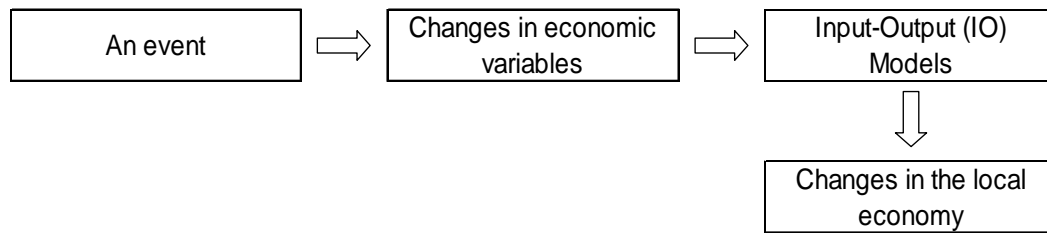
Generally, any event tends to bring about some effects, which change such economic variables as production, income, employment, etc. These changes in an industry of any economy would create a “domino” effect on other industries in the same economy.

For example, a drought--an event--that reduces water supply to farmers by 25% would cause farmers to change their production patterns. Suppose further that the production value--a measurable economic variable--is found to decrease by \$20 million. This reduced production would definitely cause the local economy's employment, workers' income, etc. to decline. Fewer jobs, fewer farm equipment rentals, fewer apartments, fewer haircuts, etc. will result.

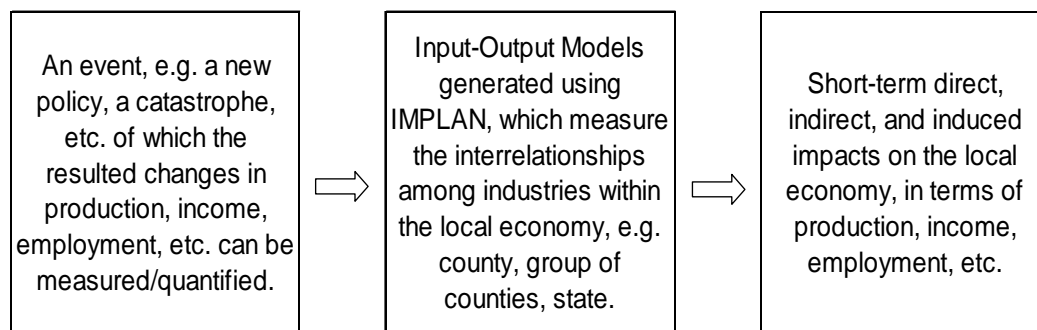


#### Theoretical Basis

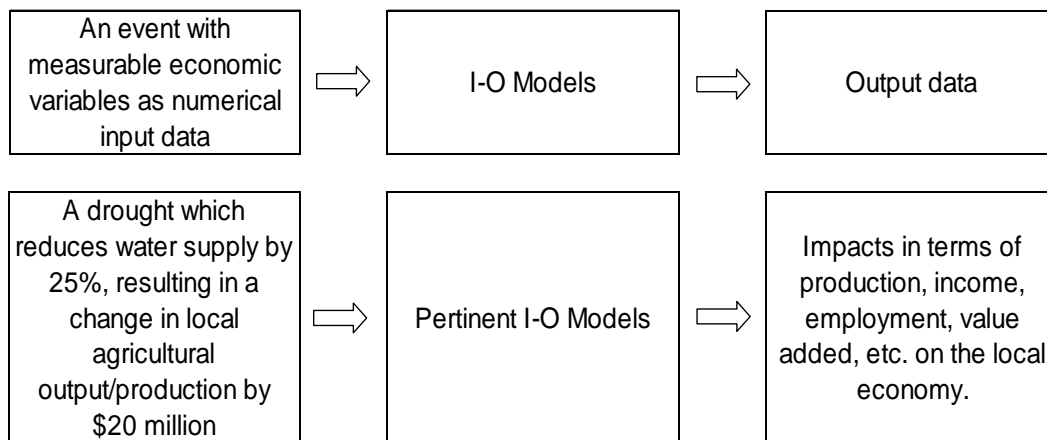
In a nutshell, the input-output (IO) model, first developed by Professor Wassily W. Leontief of Harvard University in 1941, is a matrix of interindustry flows of goods in an economy. The model takes into account the interrelationships among the industries so it allows us to estimate the effects on all industries of any changes in one industry.



### Numerical Basis



### An example:



### Input and Output Data

- (1) Numerical input data are collected or compiled from the projects under analysis, e.g. changes in production due to changes in water supply.
- (2) I-O models, after any necessary calibrations, are generated using IMPLAN Pro and available data files. The generated results, or output

from the models, include a series of coefficients and multipliers concerning production, employment, income, value added, taxes, etc.

(3) Output data are then produced combining numerical input data and the results from I-O models.

### Data Management

IMPLAN Pro can be considered as a tool to analyze a project and to generate estimated impacts of the project on the economy. There is no data from IMPLAN Pro to manage.

The issue is with the data files. At this point, available for use at DWR are the 1997 California data files. Even though analyses can still be conducted with the available data files, for better analyses, new data files should be obtained from the author.

### Software

As stated above, the main software used as an analytical tool is available for purchase at the author's address above (MIG Inc.). The company also provides other products for use in economic analyses.